

TWO MIDDLE AMERICAN LEAF BEETLES (COLEOPTERA: CHRYSOMELIDAE) NEWLY RECORDED FROM THE UNITED STATES^{1,2}

Edward G. Riley³, Edward U. Balsbaugh, Jr.⁴

ABSTRACT: Two Middle American chrysomelid beetles are recorded for the first time from the United States. *Lexiphanes teapensis*, previously known only from Mexico, is reported from one locality in New Mexico and four localities in south Texas. *Octotoma championi*, previously known from Costa Rica, Guatemala and Mexico, is reported from two localities in the Lower Rio Grande Valley of Texas where it feeds on *Lantana camara*.

Lexiphanes teapensis (Jacoby)

The genus *Lexiphanes* Gistel (Cryptocephalinae: Monachini) occurs only in the Western Hemisphere. Blackwelder (1946) listed 23 species from Central America and 93 from South America in the genus. Until now, only five species were known from America north of Mexico (Balsbaugh, 1966), viz. *L. saponatus* (F.) in eastern North America west to about the 100th meridian, *L. affinis* (Haldeman) and *L. seminulum* (Suffrian) in southeastern United States, and two Middle American species, *L. guerini* (Perbosc) and *L. mexicanus* (Jacoby), whose ranges reach into the southwestern United States.

A third Middle American species, *L. teapensis* (Jacoby), has recently been collected in the United States from five different localities. The earliest record is represented by a single specimen in the North Dakota State Insect Reference Collection [NDSU] at North Dakota State University in Fargo. It is labeled: "Guadalupe Canyon, Hidalgo Co, Nimex (sic) [a typographical error for N. Mex. (Andrews, personal communication)] VIII-19-1967 by Fred G. Andrews."

The second record is based on a series of 41 specimens collected by the first author in "Texas, Kennedy Co., 1 mi. S. of Armstrong on hwy 77: X-8-1984." All of the latter were taken by sweeping roadside vegetation, without specific plant associations. The specimens are in both the NDSU collection and the private collection of the first author [EGRC].

¹Received October 23, 1987. Accepted November 7, 1987.

²Approved for publication by the Director of the Louisiana Agricultural Experiment Station as manuscript number 87-17-1524.

³Research Associate, Department of Entomology, Louisiana Agricultural Experiment Station, Louisiana State University Agricultural Center, Baton Rouge, Louisiana 70803.

⁴Professor, Department of Entomology, North Dakota State University, Fargo, North Dakota 58105.

On October 3, 1986, E. Riley and J. Negrón collected three series of four specimens each [EGRC] at additional sites in south Texas: "Jim Wells Co., 15 mi W. Kingsville;" "Hidalgo Col., 10 mi N. San Manuel;" and "Willacy Co., 7 mi W. Port Mansfield." Again, no specific plant associations were noted.

Lexiphanes teapensis was described from about 100 specimens, all from Teapa in the Mexican state of Tabasco (Jacoby, 1889). We identified our specimens by comparing them with others that had earlier been compared with determined material in both the United States National Museum in Washington, D.C., and the Museum of Comparative Zoology at Harvard University. These included ten additional specimens in the NDSU collection from the Mexican state of "Veracruz: Palma Sola 23 Aug. 73 P. Reyes, C. Huerta, S. Gomez, Pastizal con restos selva subcauducifolia" [Grass with forest floor litter].

The new records from Texas extend the known distribution of *L. teapensis* more than 750 km north of Palma Sola, and the New Mexico record extends the range an additional 1,230 km to the northwest of the Texas localities.

In the original description of *L. teapensis*, Jacoby (1889) stated that it was very closely allied to several other species described by Suffrian, but it differed from them by the following characters: "In most specimens of *M. teapensis* the head is fulvous, but in some it is bluish black, the labrum, however, always remaining fulvous, . . . the thorax has no trace of punctuation, even when seen under a very strong lens, and the middle portion of the disc is occupied by a larger or smaller black patch which sometimes extends nearly to the lateral margins, there is no row of deep punctures to be seen at the posterior margin (this being very distinct in several closely-allied species); the elytra are generally black, sometimes bluish, with prominent shoulders, and they are strongly and regularly punctate-striate, . . . the underside and legs are black, but the anterior femora (as well as the base of the two other pairs) are frequently, and the tarsi entirely, fulvous."

The beetles from Texas are consistent with Jacoby's description for most characters. However, certain of these characters vary more than what Jacoby observed for his series from Teapa. In all of the 66 specimens examined, the heads of the males are fulvous, whereas those of the females are black, including the labrum. This is true for specimens from both Texas and Veracruz. A second obvious feature of the head is that the eyes of the male are more nearly contiguous than are those of the females. It is true, the disc of the pronotum is impunctate, but the base near the meson in some specimens is indistinctly punctate; however, the punctures are small and not in a transverse linear arrangement as with *L. guerini*. Four of the specimens from Texas have the pronotal disc immaculate, or nearly so. In the remainder, the pronotum is orange-testaceous with a single, broad, black,

discal spot, except for the single specimen from Guadalupe Canyon, Hidalgo Co., New Mexico, which has the pronotal spot longitudinally divided along the meson. Three of the beetles from Palma Sola, Veracruz, have the pronotum immaculate or nearly so; nine have the disc black. The pronotum of one specimen from "Km 341 along Highway 149, Veracruz" is entirely black.

The elytra also have variable patterns. Eighty-five percent of the beetles from Texas have entirely black elytra; 13 percent have a small orange-testaceous spot on each elytron, and two percent have an irregular transverse orange-testaceous fascia on each elytron. The respective percentages for these same color patterns in specimens from Veracruz were 50, 8, and 42 (n=12).

Octotoma championi Baly

The genus *Octotoma* (Hispinæ: Uroplatini) is presently comprised of nine described species (Uhmann, 1957), all of which are Neotropical except *O. plicatula* (F.) which is found in the eastern United States. Four species occur in South America, one exclusively in Cuba, and three in Mexico, two of which also occur in Central America. One of the Mexican species, *O. marginicollis* Horn, was originally described from Arizona (Horn, 1883). A second Middle American species, *O. championi* Baly, has recently been collected in the Lower Rio Grande Valley of Texas near Brownsville. The three collection records and observations given below represent the first report of this, the third species of *Octotoma* recorded from the United States.

The earliest Texas record for *O. championi* is one specimen collected by Robert Turnbow, Jr. and presently contained in his private collection. It is labeled: "Tex. Cameron Co. Sabal Palm Grove Sanct. nr. Southmost 5 Sept. 1981 R. Turnbow." *Octotoma championi* has since been collected twice in Cameron County, Texas, by the first author.

On October 6-7, 1984, six specimens [EGRC] were collected 6 mi. NW of Brownsville on Highway 281 from the leaves of an undetermined species of *Lantana* (Verbenaceae). The leaves showed scars very similar to those made by the adult feeding of *O. plicatula* on trumpet creeper.

On March 28-29, 1986, twenty-two specimens [EGRC & NDSU] were collected from the upper leaf surfaces of *Lantana* plants thought to belong to the same species as that mentioned above. The plants were growing among understory vegetation on the Rio Grande levee flanking the east side of the Sabal Palm Grove Audubon Sanctuary near Southmost and at another spot on the west side of the sanctuary. The beetles had evidently fed on these plants since there were numerous feeding scars on the upper leaf surfaces.

On October 4, 1986, one of the clusters of *Lantana* plants from which adults were collected during the spring was relocated. No adults were found, but leaf-mines of the trail-type, probably the work of *Octotoma* larvae, were present in several of the leaves. The mines appeared to be complete with a darkened pupal cell on or near the mid-rib of each infested leaf. The infested leaves were retained in a plastic rearing box, but adults of *Octotoma* failed to emerge; a few hymenopteran parasites (Chalcididae) were obtained. *Lantana* plants were collected and pressed from this site and later identified as *L. camara* L.

The specimens from Texas for the most part agree with the original description by Baly (1886), except he stated that the antennal club was black. The antennae of the Texas material are yellowish brown to brown with the club segments dark brownish, not black. The Texas material matches four specimens from Mexico and two from Nicaragua in the first author's collection. Comparison with these specimens and the original description are the basis for the present identification.

Octotoma championi is similar in general habitus to *O. plicatula*. It differs in being longer on the average, 5.0 mm, range 4.3-5.5 mm (n=15) compared with 4.3 mm, range 4.1-4.7 mm (n=15), for *O. plicatula*; the irregular elevated carinae of the elytra are everywhere sharper and more strongly elevated; the sinuation of the lateral elytral margin before the explanate posterior angle is more distinct; and the hind angle itself is more angular and more coarsely serrate. The elytral sutural area just behind the scutellum and again between the large, median prominence on the apex of each elytron, has a metallic-blue or greenish luster. This metallic luster is absent or nearly so on a few specimens. To date, *O. plicatula* has not been collected in the Lower Rio Grande Valley of Texas.

Octotoma championi was described from a single specimen from Capetillo, Guatemala, a locality about 5 km southwest of Antigua, state of Sacatepequez (Selander and Vaurie, 1962). In addition to Guatemala, it is also listed from Mexico and Costa Rica (Uhmann, 1957). Prior to the discovery of the Texas specimens, the northern-most collection record known to us was Mexico, Tamaulipas, Rio Corona, 30 km NE Ciudad Victoria. This locale is approximately 288 km south-southeast of Brownsville, Texas, and about 220 km further south in latitude.

Lantana camara L. was reported by Uhmann (1937) as the host plant of *O. championi* in Costa Rica. This plant has become a weed in several tropical areas around the world. The beetle has been evaluated for its potential as a biological control agent for *L. camara* and successfully introduced into Australia for this purpose (Diatloff, 1977).

ACKNOWLEDGMENTS

We thank L.E. Urbatsch, Department of Botany, Louisiana State University, for the determination of the *Lantana* specimens, and J.B. Chapin, D.A. Rider and L.H. Rolston, Department of Entomology, Louisiana State University, for critical review of the manuscript.

LITERATURE CITED

- Balsbaugh, E.U., Jr. 1966. Genus *Lexiphanes* of America north of Mexico (Coleoptera: Chrysomelidae). Proc. United States Natl. Mus. 117(3521): 655-680, figs. 1-19.
- Baly, J.S. 1886. Biologia Centrali-Americana, Insecta, Coleoptera, Hispidae, Vol. 6. pt 2., pp. 73-124, pls. I-III.
- Blackwelder, R.E. 1946. Checklist of the coleopterous insects of Mexico, Central America, the West Indies, and South America. Bull. United States Natl. Museum 185 (Pt. 4): I-III, 551-763.
- Diatloff, G. 1977. Control Biologico de la mala hierba *Lantana camara* por *Octotoma championi* y *Uroplata* sp. (cerc. *bilineata*). Agro. Costarricense 1(2): 165-167.
- Horn, G.H. 1883. Miscellaneous notes and short studies on North American Coleoptera. Trans. American Entomol. Soc. 10: 269-312.
- Jacoby, M. 1889. Biologia Centrali-Americana, Insecta, Coleoptera, Supplement to Phytophaga. Vol. 6, pt. 1, Suppl. pp. 81-168.
- Selander, R.B. and P. Vaurie. 1962. A gazetteer to accompany the "Insecta" volumes of the "Biologia Centrali-Americana." American Mus. Nov. 2099, 70 pp.
- Uhmann, E. 1937. Hispinen-Minen aus Costa-Rica. II. Teil 62. Beitrag zur Kenntnis der Hispinen (Coleoptera: Chrysomelidae). Arb. Physiol. Angew. Ent. Berlin-Dahlem 4: 61-66, figs. 1-7.
- Uhmann, E. 1957. Coelopterorum Catalogus, Supplementa, Chrysomelidae: Hispinae (Americanae), pars 35, fasc. I: I-VII, 1-153.